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Financing Modern Street Lighting

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A LOS ANGELES STREET LIGHTING INSTALLATION FINANCED UNDER THE ASSESSMENT PLAN

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IN the early days of electric street lighting when arc lamps fed from overhead construction were suspended at street intersections, it was customary for the electric service company to establish a rate per lamp for street lighting service which included the fixed charges covering the entire installation. Such installations were comparatively inexpensive, the fixed charges representing a small proportion of the established rate. This plan has been generally adopted for utilitarian lighting systems fed from overhead construction and has proven quite satisfactory, as the fixed charges are still a comparatively small part of the rate.

Ornamental street lighting systems, however, differ from utilitarian both as to the character of the lighting equipment and the method by which the lighting units are served. Ornamental systems, in addition to providing adequate and often super-illumination, are of more artistic design and are fed from underground construction. The first cost of such systems is high and, if the fixed charges for the investment are included in the service company's rate, the resulting rate is high and often makes the expense of the proposed installation too great to be included in the municipality's lighting budget. Even if the rates for ornamental lighting are within the municipality's appropriation, the tendency is for the municipality to lean towards the smaller lamps at the lower rates.

In order to meet existing conditions of inadequate appropriations and to keep the rate down, public service companies are tempted to install inexpensive equipment which does not beautify the city, nor encourage the development of the public utility's street lighting business. The remedy for this condition is outlined

in the report of the N.E.L.A. Street and Highway Lighting Committee, 1924-25, from which the following is quoted:—

"The investment in ornamental systems is high. Keep the annual rate down by having the city or the property owners pay at least for the posts and fixtures."

Ornamental lighting installations may be financed by municipal bond issues or by assessment of abutting property owners under improvement acts. They may also be financed by public subscription. In any event, little difficulty is experienced in raising money for street lighting improvements. Funds thus raised do not come out of the annual appropriations for lighting service and, with the rate relieved of fixed charges, the city will be in a better position to purchase more lighting service.

An outstanding example of the value of the bond issue in developing street lighting is evidenced by St. Louis, which has installed in the past four years a complete ornamental underground system, covering over 600 miles of downtown and residence streets. This installation was financed by an eight million dollar bond issue for the lighting equipment, underground system and substations. Current for street lighting is supplied in bulk to the city substations by the local utility, the load at present being approximately 15,000 kilo watts. Under this plan the city has been able to provide an ornamental system for the residence districts and, in addition, an ornamental system for the downtown area in which every street is a white way, rivalling in intensity many of the notable white ways in other cities. The average illumination in the downtown area is much greater than the average intensity in any other city in

the world. This could not have been accomplished except under a bond issue or an assessment plan, nor would the street lighting load have developed so rapidly under other conditions.

While many of the larger cities have financed street lighting systems by bond issues, extensive improvements in street lighting have also been financed by the assessment of abutting property owners for the costs of the installation and, in some cases, also for the additional cost of maintenance above such street lighting as would be provided by the civic authorities for protective purposes.

Laws for the creation of improvement districts for street lighting are general throughout the country and, with the exception of the State of California, these laws permit the assessment of abutting property owners for the expenses connected with the installation, upon petition of a majority of the property owners on the street to be improved.

In California, practically all street lighting improvements are financed under an Act by which, when 55 percent or more of the property owners' petition, the municipal authorities may approve the installation and with it the use of the material specified in the petition. This plan has encouraged extensive street lighting development. Los Angeles and neighboring cities are excellent examples of the progressive spirit which recognizes the value to the community of adequate street lighting.

A number of localized street lighting installations, classified as white ways, have been financed by public subscription. This method is not recommended as it involves the expenditure of much time and energy before the plans can be brought to a successful conclusion. Probably the most outstanding example of this class of financing is the installation on State Street, Chicago, completed in the fall of 1926. The promotion of this installation extended over a period of eight

years. The Commonwealth Edison Company took a leading part in the negotiations, working in close cooperation with the State Street Lighting Association. Under this plan the costs were guaranteed by the merchants in ten annual payments to take care of the installation costs and the operating expenses for a ten year period.



TWELFTH STREET, ST. LOUIS, MISSOURI

The white ways of St. Louis extend over the entire downtown district and were installed under a bond issue program.

By financing the installation costs of ornamental street lighting systems as outlined above, the service company's rates for operating and maintaining the systems would be relieved of the fixed charges for the investment, and their rates would be such as to enable the municipalities to finance the maintenance of the improved systems out of their street lighting appropriations.

Some of the more progressive public service companies have recognized the advantages to them and also to their customers of developing plans for financing ornamental street lighting systems and are spending considerable sums in arousing public interest in improved street lighting. The Public Service Company of Northern Illinois, for example, has adopted a broad and aggressive policy by establishing a street lighting division responsible for the development of their street lighting business. Having definitely decided on "com-

pany owned" utilitarian systems and "customer owned" ornamental systems, this Company established rates for these services, embodying merchandising principles which would encourage the installation of more and better street lighting. The rates are divided into two classes as follows:—

a—Rates for utilitarian street lighting fed from overhead construction in which are included the fixed charges for the investment in lighting equipment.

b—Rates for ornamental street lighting which cover the operation and maintenance of customer owned systems but



WHITE WAY ON STATE STREET, CHICAGO, INSTALLED BY PUBLIC SUBSCRIPTION

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which carry no fixed charges for the investment in the underground system or the lighting equipment.

In both classes, a base rate is established which covers all expenses connected with the service, including a reasonable profit. The rates for all sizes of lamps, above the sizes for the base rates, cover the cost of the additional current consumed by the larger lamps and their additional replacement costs. The base rates are fairly high while the added increments for each step to larger lamps are comparatively small. In this way the customer is encouraged to select the larger lamps.

In Class "a" (utilitarian), the base rates for each size of lamp are established on a quantity of 1 to 49 connected and decrease in 11 steps to 2000 connected or over. The difference between the base rate and the maximum quantity rate is 24.5 percent.

In Class "b" (ornamental), the reduction for maximum quantity covers 3000 lamps connected or over and the difference between the base rates and the maximum quantity rates is approximately 45 percent.

Under this plan, the customer is privileged to add utilitarian and ornamental lamps together to determine the quantity connected and by the reductions in costs for the quantity connected is encouraged to extend his system.

The Public Service Electric & Gas Co. of New Jersey, has also adopted an aggressive sales plan for street lighting¹ and as a result of this policy has materially increased its street lighting revenue. The Lighting Department of this Company was organized in 1922. A study of their annual lighting revenue figures indicates that, while a certain percentage of each year's increase may be attributed to normal growth, the slope of the sales curve prior to the organization of the Lighting Department was much less than that from 1923 to date.

With the example of these progressive public utilities before them, the public service companies should assume leadership in developing street lighting and thus perform a valuable service to the public. The striking development of street lighting in the Middle West and Western States, where modern methods for financing street lighting systems have been more generally adopted than in the Eastern States, is evidence of the value of these methods in promoting more and better street lighting.

¹See article by Mr. W. T. Blackwell, General Lighting Representative, Public Service Electric & Gas Co., in the N.E.L.A. Bulletin, April, 1929, p. 213, on "Street Lighting a Much Neglected Source of Revenue".